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10/814,965	03/31/2004	Clifford Earl Shamblen	129955/11854 (21635-0122)	8707
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/814,965

Applicant(s)

SHAMBLEN ET AL.

Examiner

Kathleen A. McNelis

Art Unit

1742

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 25 May 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
 - a) The period for reply expires 3 months from the mailing date of the final rejection.
 - b) The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
 - (a) They raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) They raise the issue of new matter (see NOTE below);
 - (c) They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. Applicant's reply has overcome the following rejection(s): See below.
6. Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. For purposes of appeal, the proposed amendment(s): a) will not be entered, or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: 1, 4-25 and 27-29.

Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. Other: _____.

Continuation of 11. does NOT place the application in condition for allowance because: See Below:

Arguments are summarized as follows:

1. Regarding rejection Ground 1, claims 3 and 6 have been canceled.
2. Regarding rejection Ground 2, applicant has clarified that the limitation "without any addition of a metallic alloying element to the initial metallic particle" pertains only to the melting and solidifying step and does not preclude the addition of alloying elements in any other steps.
3. Regarding Ground 3:
 - a. Grant teaches that most of the constituents are supplied as metals.
 - b. Grant discloses a chemical exchange reaction with one of the supplied metals being converted into a nonmetal and the cation of the nonmetal converted to its metallic form.
 - c. Paragraphs 0002 – 0004 in the instant specification are not identified as work done by another as prior art, therefore this disclosure does not constitute admitted prior art.
 - d. There is no objective basis for combining the references
 - e. The admitted prior art teaches away from Grant because Grant is applied as a reference for teaching that the material is to be produced without melting the constituents whereas the admitted prior art discloses melting
 - f. Applicant desires the objective basis for combining the teachings and for adopting only the helpful teachings while disregarding the unhelpful teachings. The invention as a whole is not *prima facie* obvious over the combined teachings of the prior art.
 - g. There is no expectation of success because the teaching or suggestion to combine must be found in the prior art and not the applicant's disclosure.
 - h. Grant teaches metallic powders, not a mixture of nonmetallic precursors.
 - i. The admitted prior art teaches away from a mixture of nonmetallic precursors because it discloses that typically the articles are furnished as metals.
 - j. Neither reference teaches the production of a nickel-base superalloy, a cobalt-base superalloy, an iron-base superalloy, an iron-nickel base superalloy or a martensitic steel, nor does the rejection address this.
 - k. Grant teaches that the initial metallic material is not melted and accordingly teaches away from the claimed approach.
4. Regarding Ground 4:
 - a. Kuehmann teaches producing a steel by conventional melting and casting and therefore teaches away from the present approach.
 - b. Kuehmann teaches producing steel by melting the starting materials, Talmage teaches producing steel by not melting the starting materials, therefore there is no objective basis in the reference for the combination.
 - c. There must be some expectation of success in the combination, which is not addressed.
 - d. Neither reference teaches furnishing a mixture of at least two nonmetallic precursor compounds together comprising the constituents of the metallic article. Talmage teaches the use of reducible metal oxide powders for minor portions of the constituent metallic article.
 - e. Neither reference teaches first chemically reducing without melting then melting the initial particles.
 - f. Talmage teaches that the initial metallic material is not melted and accordingly teaches away from the claimed approach.
5. Regarding Ground 5:
 - a. None of the references teach furnishing a mixture of at least 2 nonmetallic precursor compounds.
 - b. None of the references teach chemically reducing the mixture to produce an initial metallic particle.
 - c. None of the references teach casting an ingot and converting the ingot to a billet.
 - d. Peras teaches casting molten material directly into billet form (col. 2 lines 18-35).
6. Regarding Ground 6:
 - a. Kuehmann teaches producing a steel by conventional melting and casting and therefore teaches away from the present approach.
 - b. The teaching in Bienvenu that it is possible to obtain reduced metals in either solid or liquid state is speculative and not supported by examples or discussed in further detail. Further, Bienvenu teaches that direct production of alloys in powdered form is not feasible but that melting is still required (col. 3 lines 44-46).
 - c. There is not objective basis for combining.
 - d. There is no expectation of success.
 - e. Both methods teach melting to produce the metallic particle, and therefore does not teach reduction without melting the initial metallic particle.
7. Regarding Ground 7:
 - a. None of the references teach furnishing a mixture of at least 2 nonmetallic precursor compounds.
 - b. None of the references teach chemically reducing the mixture to produce an initial metallic particle.
 - c. None of the references teach casting an ingot and converting the ingot to a billet.

d. Peras teaches casting molten material directly into billet form (col. 2 lines 18-35).

Examiner's responses are as follows:

1. Regarding Ground 1: the objection to claims 3 and 6 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim is withdrawn in view of cancellation of claims 3 and 6. Additionally, prior art rejections of claims 3 and 6 are withdrawn in view of cancellation of claims 3 and 6.

2. Regarding Ground 2: the rejection of claim 13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn in view of the clarification that the limitation of "without any addition of a metallic alloying element to the initial metallic particle" pertains only to the melting and solidifying step.

3. Regarding Ground 3: the instant claims use the open language "comprising" and therefore does not exclude additional, unrecited elements (see M.P.E.P. 2111.03).

a. Grant discloses the addition of two non-metallic precursors (Fe₂O₃ and Si₃N₄) which are chemically reduced and comprise constituents of the metallic article (see pp. 3-4 of 2/28/2007 Office action).

b. Iron and silicon are chemically reduced in Grant (see 3.a. above).

c. Paragraphs 0002-0004 of the instant specification were assumed to refer the work of others due to statements such as: "In one common approach..." (paragraph 0002), "Some examples of materials applications", and "These components and other articles are typically manufactured by..." (paragraph 0004). Applicant is invited to provide a statement that the methods and material uses disclosed in paragraphs 0002-0004 are the work of the applicant.

d. As discussed on p. 5 of the 2/28/2007 Office action, producing turbine blades by shaping is disclosed by Grant et al., and the admitted prior art discloses a typical method of producing the desired shape.

e. Grant was applied as a reference teaching chemical reduction without melting (see pp. 4-5 of the 02/28/2007 Office action). The admitted prior art is combined as discussed above in 3.d. regarding subsequent forming steps. An absence of teaching is not the same as teaching away.

f. The basis is as discussed above in 3.d.

g. Grant discloses producing turbine blades, the admitted prior art discloses a typical method for producing the same as discussed in 3.d. above. The expectation of success is provided by the admitted prior art teaching that these are typical manufacturing methods.

h. See 3.a. above.

i. An absence of teaching is not the same as teaching away.

j. See p. 4 of 02/28/2007 Office action: "Grant et al. discloses a method for producing heat resistant alloys of the superalloy type based on iron, nickel and/or cobalt (col. 3 lines 6-16)".

k. Grant teaches reduction without melting as discussed in the 02/28/2007 Office action, which is recited in claim 1. Arguments do not cite where Grant teaches away from any of the claimed further processing steps. Examiner acknowledged that Grant does not disclose all of the claimed limitations (p. 5 of the 2/28/2007 Office action) but does not agree that this is the same as teaching away.

4. Regarding Ground 4: the instant claims use the open language "comprising" and therefore does not exclude additional, unrecited elements (see M.P.E.P. 2111.03).

a. Examiner acknowledged that Kuehmann et al. does not disclose all of the claimed limitations (p. 6 of the 2/28/2007 Office action) but does not agree that this is the same as teaching away.

b. See p. 6 of the 2/28/2007 Office action: Kuehmann et al. desires high purity starting material. Talmage teaches a method for forming high purity materials desired in Kuehmann et al. by reducing without melting metal oxide powders (i.e. non metallic precursors). The motivation to combine is in Kuehmann et al. (i.e. high purity starting materials). Kuehmann et al. discloses melting the high purity materials as discussed in the example cited on p. 6 of the 2/28/2007 Office action (Kuehmann et al. col. 9 line 40 – col. 10 line 19).

c. Kuehmann et al. and Talmage are in the same field of endeavor. Talamge discloses a method for producing high purity starting material desired in Kuehmann et al. (see p. 6 of the 2/28/2007 Office action). The teachings of Talmage provided expectation of success in using the method of Talmage to produce such material.

d. The instant claims do not preclude the addition of unrecited elements. Talmage discloses blending more than one oxide for reduction to metal, as discussed on p. 6 of the 2/28/2007 Office action.

e. As discussed on p. 6 of the 2/28/2007 Office action, Kuehmann et al. discloses melting the particles, Talmage teaches producing the particles by reduction without melting.

f. As discussed on p. 6 Talmage discloses a method for producing a high purity steel by reduction of oxides without melting. Arguments do not cite where Talmage teaches away from any of the claimed further processing steps.

5. Regarding Ground 5: the instant claims use the open language "comprising" and therefore does not exclude additional, unrecited elements (see M.P.E.P. 2111.03).

a. Kuehmann et al. in view of Talmage is relied upon as set forth regarding claim 1 (see p. 7 of the 2/28/2007 Office action and response to Ground 4 above).

b. Kuehmann et al. in view of Talmage is relied upon as set forth regarding claim 1 (see p. 7 of the 2/28/2007 Office action and response to Ground 4 above).

c. Kuehmann et al. discloses casting an ingot in example cited on p. 6 of the 2/28/2007 Office action. In this example, Kuehmann et al. discloses forging the ingot into a bar (Kuehmann et al. col. 9 lines 40-45). Production of a billet as taught by Peres would have been obvious as discussed on pp. 7-8 of the 2/28/2007 Office action.

d. Although Peras discloses directly producing iron into marketable form such as billets, slabs and rounds (col. 2 lines 11-35), examiner does not agree that this means an ingot is not cast. Peras discloses casting into an ingot mold to form a solidified bar which is driven down through rollers (col. 6 lines 1-8). The Metals Handbook defines an ingot as "A casting of simple shape, suitable for hot working or remelting" and a billet as "A semifinished section that is hot rolled from a metal ingot..." The casting of Peras is therefore an

ingot until it is hot rolled.

6. Regarding Ground 6: the instant claims use the open language "comprising" and therefore does not exclude additional, unrecited elements (see M.P.E.P. 2111.03).

a. Examiner acknowledged that Kuehmann et al. does not disclose all of the claimed limitations (p. 8 of the 2/28/2007 Office action) but does not agree that this is the same as teaching away.

b. Bienvenu et al. col. 3 lines 44-46 recites "When the direction production of alloys in powdered form does not appear to be feasible...", which is not the same as teaching that it is not feasible. The invention of Bienvenue et al. is production of powder by reduction of metal salts (e.g. Bienvenue et al. title, abstract, col. 3 lines 8-10). Bienvenue et al. discloses pure metals or mixtures of metals or alloys (col. 1 lines 62-66). Further, the teaching of Bienvenue et al. is not limited to the disclosed examples.

c. The basis for combining is as discussed on p. 9 of the 2/28/2007 Office action.

d. Bienvenu et al. discloses producing high purity materials (i.e. Ni, Fe, Cr and Mo) which are desired in Kuehmann et al. (see p. 9 of the 2/28/2007 Office action). The teachings of Bienvenue et al. provide expectation of success in making such materials by the method of Bienvenue et al.

e. Examiner does not find support for this statement in Bienvenue et al., which discloses reduction of metals at below the metal melting points. For example, Bienvenue et al. discloses in Example 1 that titanium is produced by reduction at 830 °C (col. 4 line 60 – col. 5 line 45) which is significantly below the melting point of titanium (i.e. about 1668 °C).

7. Regarding Ground 7: the instant claims use the open language "comprising" and therefore does not exclude additional, unrecited elements (see M.P.E.P. 2111.03).

a. Kuehmann et al. in view of Bienvenu et al. is relied upon as set forth regarding claim 1 (see p. 10 of the 2/28/2007 Office action and response to Ground 6 above).

b. Kuehmann et al. in view of Bienvenu et al. is relied upon as set forth regarding claim 1 (see p. 10 of the 2/28/2007 Office action and response to Ground 6 above).

c. Kuehmann et al. discloses casting an ingot in example cited on p. 6 of the 2/28/2007 Office action. In this example, Kuehmann et al. discloses forging the ingot into a bar (Kuehmann et al. col. 9 lines 40-45). Production of a billet as taught by Peres would have been obvious as discussed on p. 10 of the 2/28/2007 Office action.

d. Although Peras discloses directly producing iron into marketable form such as billets, slabs and rounds (col. 2 lines 11-35), examiner does not agree that this means an ingot is not cast. Peras discloses casting into an ingot mold to form a solidified bar which is driven down through rollers (col. 6 lines 1-8). The Metals Handbook defines an ingot as "A casting of simple shape, suitable for hot working or remelting" and a billet as "A semifinished section that is hot rolled from a metal ingot..." The casting of Peras is therefore an ingot from the time it is solidified until it is hot rolled.

[Signature] 4/8/07

[Signature]
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